

*USING PRETREATMENT AND POSTTREATMENT ASSESSMENTS TO
ENHANCE AND EVALUATE EXISTING
TREATMENT PACKAGES*

DAVID M. RICHMAN, WENDY K. BERG, DAVID P. WACKER,
TRACY STEPHENS, BARBARA RANKIN, AND JENNETTE KILROY

THE UNIVERSITY OF IOWA

Pretreatment assessment data were used to enhance an existing treatment package to reduce aggression and to increase positive social interactions between a young boy and his peers. Based on the results of pretreatment assessments, additional reinforcement (differential reinforcement of alternative behavior with adult attention) and punishment (performing a nonpreferred task during time-out) components were added to an existing nonresetting differential reinforcement of other behavior (access to peers unless aggression occurred) plus time-out procedure. A posttreatment component analysis of the additional treatment components indicated that the reinforcement component facilitated positive social interactions and the punishment component suppressed aggression towards peers.

DESCRIPTORS: component analysis, differential reinforcement of other behavior, differential reinforcement of alternative behavior, punishment

Descriptive assessments have been used to obtain information regarding the specific antecedent and consequent events associated with target behavior and to develop hypotheses regarding the function of behavior that can be evaluated via experimental analysis (Mace & Lalli, 1991). Descriptive and experimental analyses have been used less frequently to identify potential treatment components that, when added to existing behavior management packages, may enhance their effectiveness. In the current investigation, we used pretreatment assessments to identify (a) the specific antecedent events associated with problem behavior; (b) classroom routine and structure, including tasks

and prompts; and (c) the contingencies for aberrant and appropriate target behaviors. This information was used to select additional treatment components (e.g., prompts, reinforcers, punishers) that could be incorporated into an existing classroom treatment to make it more effective. These additional treatment components then were evaluated via a component analysis. We used this approach because it appeared to be more practical to augment rather than to replace an existing treatment package. A posttreatment component analysis helped to evaluate the effects of the added components.

METHOD

Matt was 9 years old and had been diagnosed with moderate mental retardation and Hunter's syndrome. Matt was ambulatory, and his verbal skills were limited to one- to three-word statements. The behaviors of most concern to his teacher were aggression toward peers and the lack of appropriate peer interactions. *Aggression* was defined as hitting, kicking, or grabbing a peer. *Appropriate social interactions* were de-

Jennette Kilroy is now at Children's Hospital, Pittsburgh, Pennsylvania. This investigation was supported by a grant from the National Institute on Disability and Rehabilitation Research. However, the opinions in this article do not necessarily reflect those of the grant agency. We thank the families and elementary school staff who participated in this project. Special thanks are also extended to Agnes DeRaad for her assistance in preparing this manuscript.

Address correspondence to David M. Richman, Department of Behavioral Psychology, Kennedy Krieger Institute, 707 North Broadway, Baltimore, Maryland 21205.

finer as playing with a peer (e.g., working on a puzzle together, sharing a toy, bouncing a ball back and forth). Other problem behaviors observed during an experimental analysis of antecedent variables included throwing toys and task refusal.

Assessment (3 weeks) and treatment (4 months) observations were conducted in his classroom on a weekly basis and were taped using a videocamera. The videotapes were coded by two trained observers using a 10-s partial-interval recording system. Appropriate peer interactions, aggression, and other problematic behavior (e.g., throwing toys) were calculated as the percentage of intervals in which the behaviors occurred for each assessment (e.g., 5-min conditions) and treatment probe (10-min probes). Interobserver agreement, assessed for 30% of the sessions, was calculated on an interval-by-interval basis and averaged 85% or higher for each behavior and for procedural integrity data.

A five-phase analysis was conducted: descriptive assessment, experimental analysis of antecedent variables, baseline, treatment package, and component analysis. The descriptive assessment consisted of teacher reports and antecedent-behavior-consequence (A-B-C) observations. The results of the teacher reports and A-B-C observations indicated that (a) aggression frequently occurred during free-time periods; (b) a non-resetting differential reinforcement of other behavior (DRO) procedure was in place in which Matt had access to peers, preferred toys, and intermittent praise from the teacher unless aggression occurred; (c) aggression resulted in the teacher moving Matt to a chair outside of the play area and standing next to Matt to keep him in the chair until he sat quietly for 5 s (time-out); (d) Matt often complied to verbal requests; and (e) praise was usually effective in maintaining appropriate behavior.

During the experimental analysis of antecedent variables, we manipulated (a) the

Table 1
Summary of the Experimental Analysis of Antecedents

Antecedent condition	Appropriate behavior (% of intervals)	Aggression (% of intervals)	Other problematic behavior (% of intervals)
Free play with peers	68	12	14
Free play without peers	86	2	12
Preferred task demands	100	0	0
Nonpreferred task demands	33	2	65
string beads			
make bed			
wash dishes			
Group instruction	89	10	1
High teacher attention	99	0	1
Low teacher attention	87	0	13

presence or absence of peers during instruction (group instruction vs. individual instruction) and during free play (free play with peers vs. free play without peers), (b) the amount of teacher attention (high attention vs. low attention), and (c) task preference (high-preference tasks vs. low-preference tasks). The results, which are summarized in Table 1, suggested that other problematic behavior was occasioned or evoked by (a) nonpreferred tasks (identified by teacher report), (b) the presence of peers during free play, and (c) low levels of teacher attention. Aggression occurred primarily during free play with peers and group instruction. The results also suggested that teacher attention during time-out may have reduced the effectiveness of the time-out procedure.

Based on information obtained during the pretreatment assessments (descriptive assessment and experimental analysis of antecedent variables), the following changes were made to the existing DRO and time-out procedures used during free play with peers: (a) A teacher associate (rather than the teacher) verbally prompted Matt to select a cooperative activity and to ask a peer to play both at the beginning of each session and whenever Matt and the peer discontinued

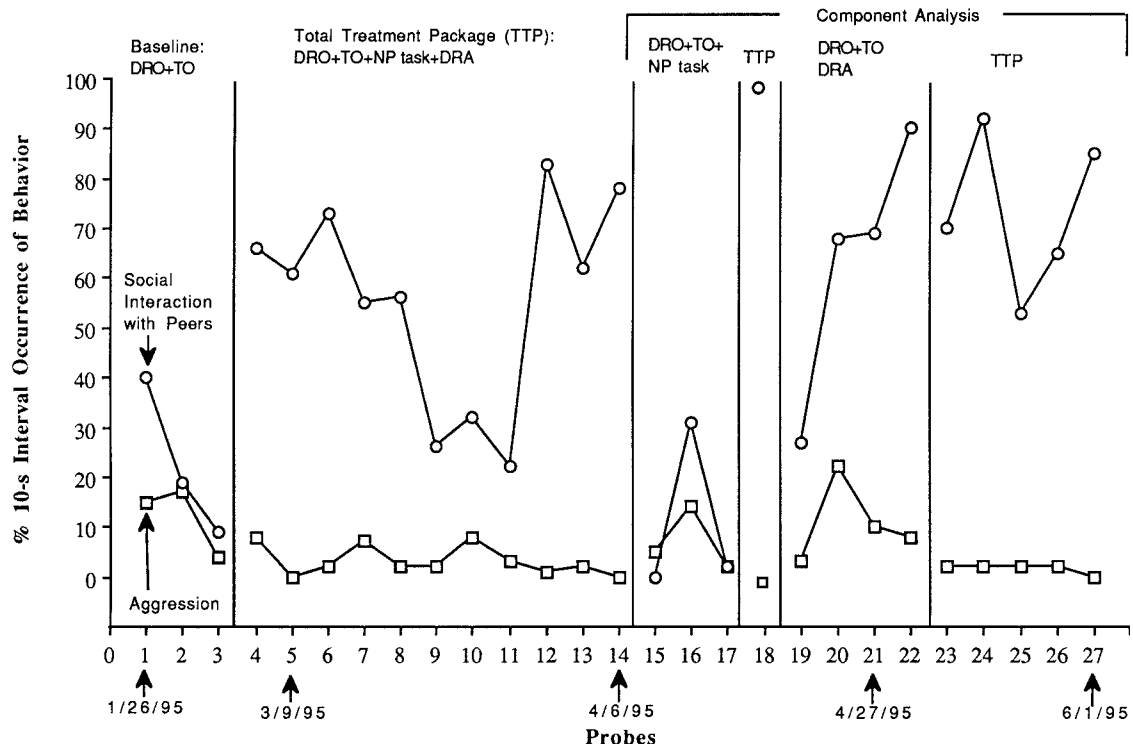


Figure 1. Percentage of 10-s intervals of aggression and appropriate peer social interaction. DRO = differential reinforcement of other behavior; TO = time-out; NP task = nonpreferred task; DRA = differential reinforcement of alternative behavior.

playing together, and the associate praised Matt and the peer approximately every 30 s contingent upon appropriate play (differential reinforcement of alternative behavior; DRA); and (b) while Matt was in time-out, the teacher associate required Matt to perform a nonpreferred task (stringing three beads) before he was allowed to return to the play area in order to decrease the potential value of teacher attention during the time-out. Three baseline observations were conducted in which the teacher and teacher associate implemented the existing DRO plus time-out procedure during free play. The treatment package was then modified to include the DRA component and the nonpreferred task during time-out. After three consecutive treatment probes (all treatment probes lasted approximately 10 min) with both low levels of aggression and high levels of appropriate peer social interactions, a

component analysis was conducted to evaluate the effects of the additional reinforcement and punishment procedures on Matt's behavior. Teacher prompts and praise (DRA) were removed from the treatment package for the first phase of the analysis, followed by a return to the total package. The added punishment component (nonpreferred task during time-out) was removed during the next phase of the analysis and was followed by a return to the total treatment package.

RESULTS AND DISCUSSION

The results (see Figure 1) of baseline (DRO plus time-out) during free play with peers showed low levels of peer interaction ($M = 22\%$) and variable levels of aggression ($M = 12\%$). When the additional treatment components were added to the package,

Matt's aggression towards peers was reduced ($M = 3\%$) and social interaction with peers increased ($M = 56\%$).

When the DRA component of the treatment package was removed, social interaction with peers decreased substantially to a mean of 11%, and aggression towards peers increased slightly ($M = 7\%$). When the DRA component was again added to the treatment package, aggression decreased to 0% and social interaction increased to 100%. Removal of the additional punishment component (nonpreferred task during time-out) for aggression resulted in an increase in aggression to baseline levels ($M = 11\%$), and social interactions remained relatively high ($M = 63\%$). Aggression was quickly reduced ($M = 1\%$) when the additional punishment component again was added to the treatment package, with social interactions continuing to occur at increased levels compared to baseline observations ($M = 73\%$).

Both the additional reinforcement and the punishment components were needed to maintain treatment effects. The punishment component appeared to be necessary to suppress the aggressive behavior, and the DRA component was necessary to maintain increased social interactions. In addition, the results indicated that the punishment component did not appear to produce negative side effects (e.g., reducing peer social interactions) when it was incorporated into the treatment package. These results are similar to those reported by Fisher et al. (1993) and

Wacker et al. (1990). In both studies, it was necessary to both reinforce mands and punish aberrant behavior during functional communication training.

One limitation of this study was that the levels of both aggression and social interactions were on a downward trend during baseline and after the DRA component was removed during the component analysis. Ideally, the two conditions would have been extended to demonstrate steady-state patterns of behavior. Overall, results show that behavior change can be accomplished quickly by using assessment data to augment rather than to replace an existing treatment. This approach to consultation may be more practical and acceptable to local service providers.

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Received October 30, 1996

Initial editorial decision December 19, 1996

Final acceptance May 1, 1997

Action Editor, Wayne W. Fisher